SEQUENCE LISTING

<110> Helix Research Institute	
<120> FATTY ACID TRANSPORTER PROTEINS AND THE GENES ENCODING THE PROTE	INS
<130> H1-106DP3PCT	
<140>	
<141>	
<150> JP 1999−194179	
<151> 1999-07-08	
<150> JP 2000−128993	
<151> 2000-04-25	
<150> US 60/159586	
<151> 1999-10-18	
<160> 12 ⋅	
<170> Patentin Ver. 2.0	
· <210> 1	
<211> 2405	
<212> DNA	
<213> Homo sapiens	
⟨220⟩	
<221> CDS	
<222> (59) (2248)	
<400> 1	
gcactcctcc cgggtttctg ctctccgccc gtgtggagtg gtgggggcct gggtggga 58	
atg ggc gtg tgc cag cgc acg cgc gct ccc tgg aag gag aag tct cag 106	
Met Gly Val Cys Gln Arg Thr Arg Ala Pro Trp Lys Glu Lys Ser Gln	
1 5 10 15	
-t	
cta gaa cga gcg gcc cta ggt ttt cgg aag gga gga tca ggg atg ttt 154 Leu Glu Arg Ala Ala Leu Gly Phe Arg Lys Gly Gly Ser Gly Met Phe	
20 25 30	
25 25	
gcg agc ggc tgg aac cag acg gtg ccg ata gag gaa gcg ggc tcc atg 202	
Ala Ser Gly Trp Asn Gln Thr Val Pro lle Glu Glu Ala Gly Ser Met	
35 40 45	

															ctg Leu	250
Ala	50		Leu		Leu	55	Leu	Leu	Leu	Leu	60		Leu	i Leu	Leu	
															ttg	298
		Leu	His	Leu		Pro	GIn	Leu	Arg			Pro	Ala	Asp	Leu	
65					70					75					80	
gcc	ttt	gcg	gtg	cga	gct	ctg	tgc	tgc	aaa	agg	gct	ctt	cga	gct	cgc	346
Ala	Phe	Ala	Val	Arg	Ala	Leu	Cys	Cys	Lys	Arg	Ala	Leu	Arg	Ala	Arg	
				85				•	90					95		
gcc	ctg	gcc	gcg	gct	gcc	gcc	gac	ccg	gaa	ggt	ccc	gag	ggg	ggc	tgc	394
Ala	Leu	Ala	Ala	Ala	Ala	Ala	Asp	Pro	Glu	Gly	Pro	Glu	Gly	Gly	Cys	
			100					105					110)		
agc	ctg	gcc	tgg	cgc	ctc	gcg	gaa	ctg	gcc	cag	cag	cgc	gcc	gcg	cac	442
Ser	Leu	Ala	Trp	Arg	Leu	Ala	Glu	Leu	Ala	GIn	Gln	Arg	Ala	Ala	His	
		115					120					125				
acc	ttt	ctc	att	cac	ggc	tcg	cgg	cgc	ttt	agc	tac	tca	gag	gcg	gag	490
Thr	Phe	Leu	He	His	Gly	Ser	Arg	Arg	Phe	Ser	Tyr	Ser	Glu	Ala	Glu	
	130					135					140		•	•		
cgc	gag	agt	aac	agg	gct	gca	cgc	gcc	ttc	cta	cgt	gcg	cta	ggc	tgg	538
	Glu	Ser	Asn	Arg	Ala	Ala	Arg	Ala	Phe	Leu	Arg	Ala	Leu	Gly	Trp	
145					150					155					160	
gac	tgg	gga	CCC	gac	ggc	ggc	gac	agc	ggc	gag	ggg	agc	gct	gga	gaa	586
Asp	Trp	Gly	Pro	Asp	Gly	Gly	Asp	Ser	Gly	Glu	Gly	Ser	Ala	Gly	Glu	
				165					170					175		
ggc	gag	cgg	gca	gcg	ccg	gga	gcc	gga	gat	gca	gcg	gcc	gga	agc	ggc	634
Gly	Glu	Arg	Ala	Ala	Pro	Gly	Ala	Gly	Asp	Ala	Ala	Ala	Gly	Ser	Gly	
			180					185					190			
gcg	gag	ttt	gcc	gga	ggg	gac	ggt	gcc	gcc	aga	ggt	gga	gga	gcc	gcc	682
					Gly											
		195		•			200					205				
gcc	cct	ctg	tca	cct	gga	gca	act	gtg	gcg	ctg	ctc	ctc	CCC	gct	ggc	730
					Gly											
	210					215					220					
сса	gag	ttt	ctg	tgg	ctc	tgg	ttc	ggg	ctg	gcc	aag	gcc	ggc	ctg	cgc	778
					Leu											

225	230		235	240
			ggc ccc ctg ctg cac Gly Pro Leu Leu His 255	_
Leu Arg Ser C			ctg gcg cca gag ttt Leu Ala Pro Glu Phe 270	_
			aga gcc atg ggg ctc Arg Ala Met Gly Leu 285	
			gct gga att agc gat Ala Gly lle Ser Asp 300	•
			cca gtg cca gga tac Pro Val Pro Gly Tyr 315	
			ctg tac atc ttc acc Leu Tyr IIe Phe Thr 335	
Gly Thr Thr G			atc agt cat ctg aag lle Ser His Leu Lys 350	
			ggt gtc cac cag gaa Gly Val His Gln Glu 365	
	_		atg tcc ggt tcc ctg Met Ser Gly Ser Leu 380	_
			aca gtg gtg ctg aaa Thr Val Val Leu Lys 395	
	- "		tgc cag cag cac agg Cys Gln Gln His Arg 415	
acg gtg ttc c	ag tac att ggg	gag ctg tgc	cga tac ctt gtc aac	cag 1354

Thr	Val	Phe	GIn 420	Tyr	lle	Gly		Leu -425	Cys	Arg	Tyr	Leu	Va I 430	Asn	GIn	
	_	_	aag Lys		_		_									1402
			cgc Arg													1450
	_	_	gtg Val	_					_		-			_	_	1498
			tac Tyr													1546
		_	cat His 500						-		_		_	_		1594
	_		cca Pro									_	_			1642
			cca Pro													1690
			tat Tyr													1738
			ttc Phe													1786
		_	gat Asp 580	_					-			_	_			1834
			agg Arg													1882

									cag Gln							1930
									gct Ala						_	1978
									atg Met 650							2026
_									ccc Pro							2074
									aaa Lys							2122
									ctg Leu							2170
									ccc Pro							2218
			ctg Leu						atc Ile 730	tgag	gaact	tc o	acad	ctga	ıg	2268
gcac	ctga	iga g	gagga	acto	t gt	gggg	tggg	ggc	cgtt	gca	ggtg	tact	gg g	ctgt	caggg	2328
atct	tttc	ta t	acca	gaac	t go	ggto	acta	ttt	tgta	ata	aatg	tggc	tg g	gagot	gatcc	2388
agct	gtct	ct g	acct	ac												2405
<210> 2 <211> 730 <212> PRT <213> Homo sapiens																
/400	. 110		ар I С	113												

Met Gly Val Cys Gln Arg Thr Arg Ala Pro Trp Lys Glu Lys Ser Gln

. 10

5

- Leu Glu Arg Ala Ala Leu Gly Phe Arg Lys Gly Gly Ser Gly Met Phe $\cdot 20$ 25 30
- Ala Ser Gly Trp Asn Gln Thr Val Pro IIe Glu Glu Ala Gly Ser Met 35 40 45
- Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp Leu 65 70 75 80
- Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala Arg 85 90 95
- Ala Leu Ala Ala Ala Ala Asp Pro Giu Giy Pro Giu Giy Giy Cys 100 105 110
- Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala His 115 120 125 .
- Thr Phe Leu IIe His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala Glu 130 135 140
- Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly Trp 145 150 155 160
- Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly Glu
 165 170 175
- Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser Gly 180 185 190
- Ala Glu Phe Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Ala Ala 195 200 205
- Ala Pro Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Leu Pro Ala Gly 210 215 220
- Pro Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu Arg 225 230 235 240
- Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His Cys 245 250 255

- Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu Phe Leu 260 265 270
- Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met Gly Leu His 275 280 285
- Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly Ile Ser Asp Leu 290 295 300
- Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro Val Pro Gly Tyr Leu 305 310 315 320
- Ser Ser Pro Gln Ser IIe Thr Asp Thr Cys Leu Tyr IIe Phe Thr Ser 325 330 335
- Gly Thr Thr Gly Leu Pro Lys Ala Ala Arg Ile Ser His Leu Lys Ile 340 345 350
- Leu Gln Cys Gln Gly Phe Tyr Gln Leu Cys Gly Val His Gln Glu Asp 355 360 365
- Val lle Tyr Leu Ala Leu Pro Leu Tyr His Met Ser Gly Ser Leu Leu 370 375 380
- Gly lie Val Gly Cys Met Gly lie Gly Ala Thr Val Val Leu Lys Ser 385 390 395 400
- Lys Phe Ser Ala Gly Gln Phe Trp Glu Asp Cys Gln Gln His Arg Val 405 410 415
- Thr Val Phe Gin Tyr lie Gly Glu Leu Cys Arg Tyr Leu Val Asn Gin 420 425 430
- Pro Pro Ser Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val Gly
 435 440 445
- Ser Gly Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe Gly 450 455 460
- Pro Leu Gin Vai Leu Giu Thr Tyr Giy Leu Thr Giu Giy Asn Vai Ala 465 470 475 480
- Thr lie Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser Trp
 485 490 495
- Leu Tyr Lys His IIe Phe Pro Phe Ser Leu IIe Arg Tyr Asp Val Thr 500 505 510

- Thr Gly Glu Pro IIe Arg Asp Pro Gln Gly His Cys Met Ala Thr Ser 515 520 525
- Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser Gln Gln Ser Pro 530 535 540
- Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala Gln Gly Lys Leu Leu 545 550 555 560
- Lys Asp Val Phe Arg Pro Gly Asp Val Phe Phe Asn Thr Gly Asp Leu 565 570 575
- Leu Val Cys Asp Asp Gln Gly Phe Leu Arg Phe His Asp Arg Thr Gly 580 585 590
- Asp Thr Phe Arg Trp Lys Gly Glu Asn Val Ala Thr Thr Glu Val Ala 595 600 605
- Glu Val Phe Glu Ala Leu Asp Phe Leu Gln Glu Val Asn Val Tyr Gly 610 615 620
- Val Thr Val Pro Gly His Glu Gly Arg Ala Gly Met Ala Ala Leu Val 625 630 635 640
- Leu Arg Pro Pro His Ala Leu Asp Leu Met Gln Leu Tyr Thr His Val 645 650 655
- Ser Glu Asn Leu Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Léu Gln 660 665 670
- Glu Ser Leu Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg Met 675 680 685
- Ala Asn Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr Val 690 695 700
- Leu Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg Tyr 705 710 715 720
- Ser Ala Leu Leu Ala Gly Asn Leu Arg IIe 725 730

<210> 3

<211> 30

<212> RNA

<213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Artificially Synthesized Oligo-cap Linker	
<400> 3 agcaucgagu cggccuuguu ggccuacugg	30
<210> 4 <211> 42 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Artificially Synthesized Primer Sequence	
<400> 4 gcggctgaag acggcctatg tggccttttt ttttttttt tt	42
<210> 5 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Artificially Synthesized Primer Sequence	
<400> 5 agcatcgagt cggccttgtt g	21
<210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence:Artificially	
Synthesized Primer Sequence	
<400> 6 gcggctgaag acggcctatg t	21

```
<210> 7
<211> 36
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Artificially
      Synthesized Primer Sequence
<400> 7
                                                                   36
ggaattccgt ggagtggtgg gggcctgggt gggaat
<210> 8
<211> 39
<2.12> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Artificially
      Synthesized Primer Sequence
<400> 8
cgggatccca cctgcaacgg ccccacccc acagagttc
                                                                   39
<210> 9
<211> 36
<212> DNA
<213> Artificial Sequence
⟨220⟩
<223> Description of Artificial Sequence:Artificially
      Synthesized Primer Sequence
<400> 9
ggaattccgt ggagtggtgg gggcctgggt gggaat
                                                                   36
<210> 10
<211> 29
<212> DNA
<213> Artificial Sequence
```

<220>

39

<223>	Description of Artificial Sequence: Artificially Synthesized Primer Sequence	
<400> cggga	10 tccga ttcgaaggtt tcctgccag	29
<210> <211> <212> <213>	20	
<220> <223>	Description of Artificial Sequence: Artificially Synthesized Primer Sequence	
<400> aacags	11 ggctg cacgcgcctt	20
<210>	12	
<211>	39	
<212>	DNA	
<213>	Artificial Sequence	
<220>	·	
<223>	Description of Artificial Sequence: Artificially Synthesized Primer Sequence	
<400>	12	

cgggatccca cctgcaacgg cccccacccc acagagttc